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HAPPINESS IN A DIGITAL WORLD – THE ASSOCIATIONS OF HEALTH, FAMILY LIFE, AND DIGITALIZATION PERCEIVED CHALLENGES - PATH MODEL FOR ABU DHABI

Masood Badri*, Mugheer Alkhaili, Hamad Aldhaheri, Guang Yang, Muna Albahar, Asma Alrashdi
Department of Community Development, United Arab Emirates
Email: masood@uaeu.ac.ae*

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ABSTRACT

The digital revolution influenced all levels and spheres of human social activities covering personal communications and relationships, health and mental health, and hours spent online. However, the widespread implementation and effects of digital technologies amongst all segments of society have not been understandable. The effects touch all aspects of life, be it personal, social, or economic, touching people's happiness positively or negatively. This research is the first attempt in Abu Dhabi to look at the impact of digital transformation and the associations of other aspects of people's life. The objective of this study is to propose a path model for better understanding the degree of association of related behaviors related to digital transformation and people's happiness. An extensive literature search identified several related wellbeing dimensions for this study. We used the Abu Dhabi Quality of Life data for this purpose. Results show that we should not ignore the significant positive association between the digital resources/means in society and our happiness or health. However, results also point to the perception of the negative impact of digital transformation on how we feel and behave daily. The hours we spend online also add to our negative daily feelings. The nature of our satisfaction with our family life seems to influence our negative mixed feelings about digital practices and habits. The strong association between our overall happiness and subjective health produced the most significant association. Limitations and policy implications are discussed.

INTRODUCTION

In 2018, The Pew Research Center reported the results obtained from 1150 technology experts, scholars, and health specialists. The report provided both positive and negative relations between digital technology and wellbeing. The question read: "Over the next decade, how will

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changes in digital life impact people's overall wellbeing physically and mentally? The result indicated that about 47% of respondents predicted that digital technologies positively affect wellbeing. However, 32% believed digital technology would negatively impact people's wellbeing. The remaining 21% selected the option (slight change in wellbeing compared to now). The 2018 Pew Research Center report summarizes the positive and negative relations between digital technologies and wellbeing that emerged. In an article, Mark Williamson, CEO of the Action for Happiness movement, reminds its followers that many of their sources of happiness are supposedly technology-free. He points to three simple non-digital actions that have been proven to make us happier: get active outdoors, take a breathing space, and make someone else happy (Williamson, 2014).

Happiness, as a wellbeing state, consists of positive happenings in an individual's life (Bangun et al., 2021). The wellbeing state often concerns economic, social, spiritual, psychological, and physiological domains (Choudhury & Barman, 2014). Burtram (2012) related happiness to meaningful lives as it relates to a pleasant, harmonious, and meaningful life. Some address wellbeing about happiness (Seligman, 2012). Many have tried to discuss the state of community wellbeing in light of technology and digitalization. Some recognized that technology and digitalization had become an essential part of our daily life and happiness, signifying the current era of digital technology (O'Brien, 2016). This relationship between happiness and digitalization has taken significant attention and focus (Surowiecki, 2005). Others addressed digitalization's impacts on our general wellbeing (Choudhury & Barman, 2014). Finally, many have addressed the positive impact of digital transformation on the sense of wellbeing, focusing on people's social life and connections with others (O'Brien, 2016).

Generally speaking, digital transformations and digitalization have affected our lives in all aspects. On the positive point, modern digital technologies have significantly enhanced the speed and efficiency of many businesses at all levels (Trinugrohoab et al., 2021). Business entities have attained new levels of providing information about services and products virtually and reaching regional, national, and international markets and areas (Wood et al., 2020). The same positive impact is observed regarding social means of communication (Härting et al., 2018). Research points out that many countries have taken advantage of digitization to strengthen their economic position in the world (Bresciani et al., 2021; Ritter & Pedersen, 2020). A study by (Tobgye & Dorji, 2022) presented the status of the pervasive influence of digital technology in Bhutan. The study reveals that digital transformation has impacted all aspects of private and public lives in Bhutan. It reported that in some cases, the impacts have been negative. Some studies recommend taking a much closer look at the evolutionary role of digitalization if we intend to increase people's wellbeing (Dorji & Pek, 2005; Heeks, 2012).

Earlier research by (Badri et al., 2017) reported that children tended to use social networking to keep in touch with friends and the outside arenas. The study raised the issue that younger generations use digital tools for communication and fun. The study recommended that social and education policymakers study this significant finding further to study the significant associated risks. The Abu Dhabi Quality of Life (QoL) survey revealed that, on average, 5.67 hours an individual spends online every day. However, this number reaches 8.619 hours for school-aged students. The survey also asked respondents about their agreement level on their belief that digital transformation is a positive move for society. Results showed that 75.9% agreed or strongly agreed, while only 4.6% disagreed or strongly disagreed. However, when asked about its negative effect on the younger generation, about 51% reported a significant or large extent.

The survey also revealed challenges regarding time spent online, eating healthy food, staying active, social connections, and health and mental health (Badri et al., 2021, 2022).

Digital transformation has affected every aspect of life. Such a transformation entails changing many aspects of social standards with significant positive or adverse effects. Research has carried out various approaches to understand such a drastic transformation better. A better understanding of the impacts of digitalization on social connectivity and mental wellbeing calls for adopting appropriate and drastic measures and policies for the different users of the new technologies. The literature review has identified the most critical digitalization effects and factors that impact our social and mental wellbeing. There is a need for a closer look at our happiness in light of the many aspects of our behavior. Furthermore, there is a need to design a more interconnected and coherent path model to effectively analyze and understand digitalization's impact on various individuals and communities.

The current research focuses more on the digital transformation influences as it evolves in our lives, particularly in Abu Dhabi. It developed an interdependence path model that also captured the associations of the digital transformation surroundings when it comes to our happiness and health. The model recognizes our negative feelings about the challenges of digital transformation, given the positive impacts it might have on our lives.

This current research elaborated on the relationship between happiness, attitude toward digital technology, and several factors related to digital technology and identified wellbeing factors. The research attempts to confirm the relationship between happiness and wellbeing variables and investigates the mediating role of happiness in the relationship between the wellbeing variables. This research is a first of its kind in Abu Dhabi. This study aims to fill in the gap by identifying respondents' happiness and their mediations and associations in the digital world that controls everything we do.

METHOD

The study's objective is to design and analyze a path model for assessing digitalization's association with various determinants of wellbeing. The study material is a set of wellbeing indicators driven by fourteen wellbeing dimensions obtained from the third cycle of the Abu Dhabi Quality of Life (QoL-3) survey conducted in 2021-2022. Since its development in 2018, data from the QoL-3 has been the base for various wellbeing research (Badri et al., 2017, 2021, 2022). The central theme is the digital transformation of the Abu Dhabi society when placing the factor of happiness as our primary concern. The path analysis presents a model that tests the associations of happiness given other significant factors of subjective health, psychological feelings, perceptions of digital challenges, use of social connection tools, and time spent online. The model focuses on integrating all those aspects of digitalization while focusing on the individual's happiness.

A. The Survey

We obtained the data from the Abu Dhabi Quality of life survey (QoL 3rd Cycle). The survey is comprehensive with a total of fourteen dimensions (housing, household income and wealth, jobs and earnings, work-life balance, health, education and skills, personal safety and security, social connection, civic engagement and governance, environment quality, subjective wellbeing, social and cultural values, social and community services, and access to information). However, based on the literature review, we will focus mainly on the most related variables to digital transformation. Table 1 provides a summary of the items, the questions, and the scales. In addition, it provides some explanations and handling of three of the questions that involved multiple items.

Table 1
Final list of variables in the model

	Variable	Details
A1	Subjective health	Subjective physical health is presented with one item that asked (in general, how you assess your current health status). The item used a scale (1-5). The options included (poor, fair, good, very good, and excellent).
A2	Perception of subjective negative impact	Five variables present the subjective negative impact. The main question asked (to what extent are the following a significant concern to you regarding the negative impact of digital transformation? Five choices were given to rate responses (social activity, physical health, mental health, young generation, and cyber/security). For each of the questions, a (1-5) scale was provided ranging from (not at all) to (a large extent). Factor analysis yielded one factor with a Cronbach Alpha of (0.898). As a result, one composite variable was used to represent the five variables.
A3	Happiness	The happiness question asked respondents to use a (0-10) scale and describe their average level of happiness as an Abu Dhabi resident.
A5	Perception of negative impact of digital transformation	Five variables were presented, asking about the negative impact of digitalization (social activity, physical health, mental health, young generation, and cybersecurity). Respondents were asked to convey their perceptions using a (1-5) scale for each item. Response options were (Not much at all, to a small extent, to a moderate extent, to a considerable extent, and a large extent). The composite variable produced reliability of (0.896).
A6	Hours of leisure time	One question addressed the hours for leisure time per day. Respondents were allowed to use their number of hours.
A7	(Composite of negative feeling – (mental) and (physical).	The subjective negative feelings asked respondents to rate eight subjective feelings. The feelings included (feeling sad, low, or depressed - worry or anxiety - concentrating or remembering things – sleeping - physical pain – fear – loneliness – and boredom). All items used a scale (1-5). The options included (not at all, to a small extent, to some extent, to a moderate extent, and to a great extent). Factor analysis yielded one factor, with a Cronbach Alpha of (0.873).
A13	Satisfaction with family life	One satisfaction question asked about (satisfaction with my family life? A (1-5) scale was used, ranging from (strongly disagree to agree strongly)
A14	Positive effect of digital transformation	One question asked how strongly you agree or disagree with the statement: I believe digital transformation is a positive societal move. The (1-5) scale ranged from (strongly disagree to agree strongly)
A15	Hours usually spent online	The question related to the number of hours online per day asked respondents (On average, how many hours do you usually spend online a day?). Again, they have an open-ended option to state the most appropriate number of hours.

B. Data analysis

Since different items in the survey used different scales, we standardized the data before further analysis was performed. This step was necessary to make the data more accountable for computational aspects and interpretations when different scales were used (Langenberg 2005). An initial analysis was performed to reduce the variables affecting respondents' happiness in a digital transformation era. The initial analysis included individual correlation and multiple regression to understand the magnitude and direction of individual relationships between the various factors.

The analysis employed a step-by-step path analysis. At every step, one individual variable was introduced. For all instances, the happiness variable was treated as the primary focus of the analysis. When considering a variable, three fundamental statistical values were used: the magnitude of the standardized coefficient, the t-statistics, and the level of significance. We eliminated variables that did not reflect any significance from further consideration. The path analysis aims to yield a path model and to estimate effects to uncover the pattern of associations between happiness and other variables.

For the path analysis, we used several fit statistics suggested by many researchers (Chen 2007; Schumacker & Lomax 2004). Degrees of Freedom (DF) associated with the Maximum Likelihood Ratio Chi-Square (MLRCS) are the main criteria for judging a path model. Root Mean Square Error of Approximation (RMSEA) is an index of the difference between the observed covariance matrix per degree of freedom and the hypothesized covariance matrix, which denotes the model. RMSEA takes the model complexity into account, as it also reflects the degree of freedom. When the RMSEA value is smaller than 0.05, it may indicate a convergence fit to the analyzed data of the model. When it produces a value between 0.05 and 0.08, it indicates a fit close to good. The Comparative Fit Index (CFI), Normed Fit Index (NFI), Non-Normed Fit Index (NNFI), Parsimony Normed Fit Index (PNFI), Goodness of Fit Index (GFI), and Adjusted Goodness of Fit Index (AGFI) produce values between 0 and 1, and high values are indicators of good fit. When their value is 0.90, the fit in question is better than the independence model (Schermelleh-Engel & Moosbrugger 2003). Root Mean Square Residual (RMR) is the square root of the difference between the residuals of the sample covariance matrix and the hypothesized covariance model. Values as high as 0.08 are deemed acceptable (Hu & Bentler 1999).

In the final path analysis, for individual variables, all significant relations were considered and included in the model. The final path analysis model was identified as the best fit model given all fit statistics. Since LISREL was used in building the final model, several options in the software were utilized to arrive at the final model. The model only contained paths that were significant, as all insignificant paths were removed from the final model. The software suggested adding new paths that would increase the fit of the model. A step-by-step analysis using this feature was conducted. This analysis provides estimates of decreases in chi-square if new paths are added. Another option is suggestions for adding error covariance between variables. The software also indicated the most significant harmful standardized residuals between selected variables. As a result, many variables were eliminated from further analysis.

Further analysis focused on the biographical differences of the respondents (i.e., gender, age, marital status, and education). Finally, the analysis attempted to see if significant differences exist in variables related to digital transformation. These include hours spent online, perception of negative impacts of digital transformation, perception of the positive impact of digital transformation on society, and the perception of negative feelings from digital transformation. The analyses will use a simple analysis of variance (ANOVA).

We used path analysis for the main analysis. Table 2 provides some basic descriptive statistics and frequencies about the sample used. More male respondents got involved with the survey (72.3% relative to 27.7%). Non-UAE citizens constituted 60.3% relative to 39.7% UAE nationals. About 85.2% of the respondents were married, 8.6% single, and 6.3% Divorced, widowed, or separated.

Concerning the highest level of education attained, most respondents have a bachelor's degree (45.5%), followed by 26.1% master's degree holders and 12.8% holders of secondary school certificates. Most respondents (64.2%) lived in the capital Abu Dhabi, 24% in Al Ain, and 9.1% in Al Dhafra. Since the main focus of this study is the happiness of Abu Dhabi respondents, table 2 also presents the happiness means and standard deviations for each category. The mean scores are relatively higher for older females, Dhafra residents, the married, those with secondary degrees, and non-Emiratis. Meanwhile, looking at the values of standard deviations for the different categories also reveals some exciting observations, as

the younger ones show higher dispersions. Not many differences were observed concerning gender. As educational attainment increases, dispersions decrease. Finally, Emiratis reflect much higher dispersion in their responses.

RESULTS AND DISCUSSION

A. Results

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Table 2
Respondent categories and their happiness

Category	Percentage	Mean	Standard dedication
Age			
15-24	2%	6.733	3.019
25-30	4.9%	7.182	2.649
31-35	13.8%	7.123	2.563
36-40	20.6%	7.291	2.504
41-45	21.9%	7.391	2.459
46-50	15.7%	7.566	2.366
51-55	10.3%	7.912	2.092
56-60	5.6%	7.887	1.935
60+	5.5%	8.375	1.863
Gender			
Male	72.3%	7.486	2.409
Female	27.7%	7.514	2.407
Region in Abu Dhabi			
Abu Dhabi	64.2%	7.434	2.358
Al Ain	24.0%	7.636	2.466
Dhafra	9.1%	7.829	2.379
Marital status			
Married	85.2%	7.543	2.385
Single	8.6%	7.020	2.504
Divorced/widowed/Separated	6.3%	7.460	2.476
Education			
Less than secondary school	3.1%	8.016	2.629
Secondary school	12.8%	7.595	2.7777
Below college degree	12.6%	7.381	2.6279
College degree	45.5%	7.527	2.3108

Category	Percentage	Mean	Standard dedication
Graduate degree	26.1%	7.438	2.254
Nationality			
Emirati	39.7%	7.435	2.716
Non-Emirati	60.3%	7.532	2.181

First, we calculated the covariance matrix for the structural equations – path analysis. Table 2 shows the matrix. We calculated the covariance matrix using the SPSS software. It should be understood that the statistical distribution of the elements of a covariance matrix is not the same as that of a correlation matrix. The diagonal elements of a covariance matrix represent the variances of the variables. Furthermore, it should be understood that these are random variables as they vary from sample to sample (Cudeck, 1989).

Table 3
Covariance matrix of variables in the final path model

	Variables in the path model	F01	F18B	L02	I11	O01L	O05	O07
F01	Subjective health	1.000						
F18B	Negative mixed feelings from (DT)	-0.291	1.165					
L02	Happiness	1.477	-1.548	31.827				
I11	Satisfaction with family life	0.305	-0.343	2.533	1.212			
O01L	Positive effect of (DT)	0.074	-0.026	0.644	0.100	0.370		
O05	Hours online	-0.627	2.468	-3.629	-1.338	0.701	279.51	
O07	Negative impact of (DT)	-0.071	0.198	-0.717	-0.143	-0.032	1.021	0.943

LISREL 9.20 was used to estimate the path model for this study and analyze the QoL data. Figure 1 shows the final path model. Figure 1 shows the variables remaining in the final path model and the significant paths between the variables. The model is consumed by seven variables where happiness is treated as the ultimate objective. The final model enjoys high fit-measure statistics. Model accuracy indicators and parameter values suggest that the final derived model structure is acceptable. The final model yielded good fit indicators ($\chi 2 = 5.306$ with 3 degrees of freedom, RMSEA = 0.0275, NFI = 0.996, NNFI = 0.972, CFI = 0.996, GFI = 0.999, AGFI = 0.993, IFI = 0.996, and RMR = 0.0447). The fit indicator is indicative of a highly acceptable model.

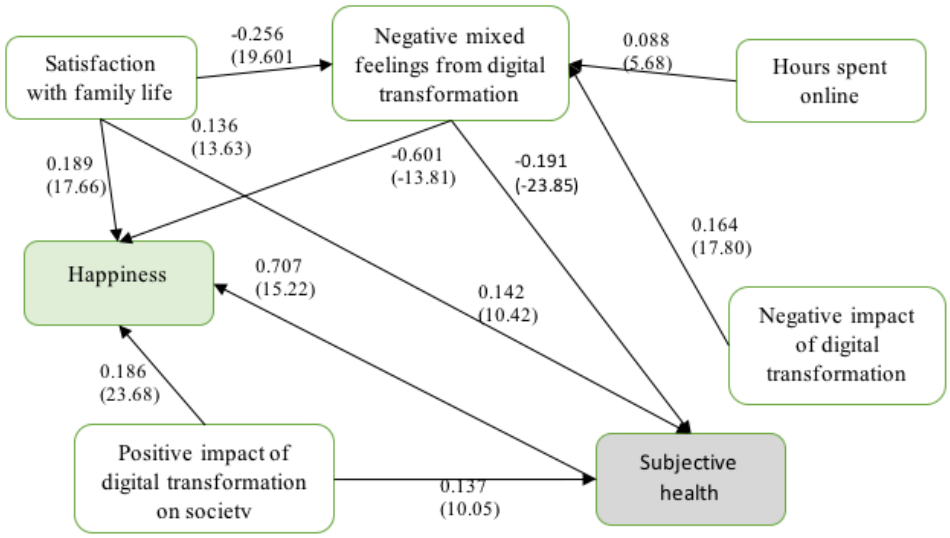

Figure 1. The final path model (Digital transformation)

Table 4 shows each construct's direct, indirect, and total effects, recognizing that happiness is our primary concern. As a direct association with happiness, four variables provide significant associations. When ranked by the highest absolute value of the association, the variables reflect subjective health, the negative mixed feelings (feeling sad, low or depressed - worry or anxiety - concentrating or remembering things – sleeping - physical pain – fear – loneliness – and boredom), perception of the positive impact of digital transformation, and satisfaction with family life. Putting happiness at our center of attention, table 3 provides the direct associations, the summated indirect, and total associations. We also need to recognize that the variable satisfaction with family life exerted three (from-to) associations (happiness, subjective health, and the perception of negative feelings from digital transformation).

Table 4
Path analysis (Direct, indirect, and total association with happiness)

Path from	Path to	Direct association	Indirect association	Total association
Perception of negative impact of DT	Happiness	----------	0.0986	0.0986
Satisfaction with family life	Happiness	0.189	0.1884	0.3374
Perception of positive effect of DT on society	Happiness	0.186	0.0969	0.2829
Negative personal feelings from DT	Happiness	-0.601	0.1355	0.7365
Hours spent online per day	Happiness	----------	0.0529	0.0529
Subjective health	Happiness	0.7072	0.0191	0.7260

The highest direct significant association is between subjective health and happiness (0.707). In addition, subjective health indirectly correlates through its mediation between happiness and the negative feelings from digital transformation. The second highest direct association is harmful and is between the perception of the negative feelings from digital transformation and happiness (-0.601). As a result, the higher the intensity of such negative feelings, the lower the happiness. Social connection is reflected by satisfaction with family life and significantly affects happiness (0.189). The more positive association observed regarding

happiness is related to the perception of the positive effects of digital transformation on society (0.186).

We should recall that the negative feelings reflected a composite of mixed outcomes such as (feeling sad, isolated, low or depressed, worried or anxious, concentrating or remembering things, sleeping, physical pain, fear, loneliness, and boredom). Moreover, if we isolate those negative feelings, we note that worry and anxiety, sadness or depression, and concentrating or remembering things are the most significant three negative concerns. However, all the means were relatively low and below (3.00).

Subjective health mediates between happiness and three other variables (satisfaction with family life (0.136), perception of negative mixed feelings from digital transformation (-0.191), and perception of the positive impact of digital transformation on society (0.137)). As we note, the perception of negative mixed feelings from digital transformation exerts a negative association. It is interesting to note, too, that both perceptions of negative mixed feelings from digital transformation and perceptions of the positive impact of digital transformation on society have a direct and indirect association with happiness.

Perception of the (negative impact of digital transformation) shows one path only, and it is to the negative feelings that users feel. The path provides an association of (0.0986). This result encouraged us to look closer at the means of the variables composed to form the variable representing the perception of the negative impact of digital transformation. The means were (2.886, 3.122, 2.939, 3.467, and 3.229) and related to (social activity, physical health, mental health, young generation, and cyber security). The two most perceived as having negative impacts were the impact on the young generation and the challenges of cybersecurity and safety. Focusing on the perception of the (negative impact of digital transformation), we also note that the composite variable is not associated with other variables besides the negative mixed feelings.

Category differences and digital transformation

Since the path model covered different categories of respondents, it seems necessary to see the differences that might exist when focusing on digital transformation or digitization-related variables. Therefore, table 5 provides the ANOVA results regarding the study's digital transformation-related variables.

Table 5
ANOVA results according to respondent categories

	Gender		Age		Marital status		Education	
	F-value	Sig.	F-value	Sig.	F-value	Sig.	F-value	Sig.
Positive impact of Dig. Trnsf.	94.285	0.001	1.865	0.058	6.312	0.001	12.310	0.001
Negative impacts of Dig. Trnsf.	136.029	0.001	10.0122	0.001	4.740	0.001	25.239	0.001
Hours per day online	416.928	0.001	29.499	0.001	39,260	0.001	6.029	0.001
Negative feelings from Dig. Trnsf.	311.395	0.001	85.824	0.001	71.798	0.001	5.547	0.001

The first variable reflected how we perceive the positive impact of using new technologies and digital transformation on society. ANOVA results provide significant differences between males and females as male respondents provided significantly higher means than females (4.287 relative to 4.131). We note that those with higher education qualifications (BS, MS, and Ph.D.) provided the highest means (4.264, 4.318, and 4.252), while those with reading and writing only qualifications provided the lowest means (3.830). The married provided the highest mean (4.25), while the separated provided the lowest (4.001). Those 35-39 and 40-44 old age provided the

highest means (4.27 and 4.27 respectively. The younger ones provide the lowest mean, specifically those 20-24 years (4.12).

The following digital transformation-related variable reflected our perception of the negative impacts on significant domains such as social activity, physical health, mental health, the young generation, and cybersecurity. As a composite variable, we note that females showed significantly much greater concern than males (2.505 and 2.127, respectively). For age categories, we note that those 20-24, 25-29, and 30-34 provided the most significant concerns (2.657, 2.587, and 2.542, respectively). The older respondents (55-59 and 60 and above) showed the lowest means (1.874 and 1.582, respectively). Interestingly, the married provided the lowest composite concerns with a mean of (2.165), with the separated providing the highest concern (2.673). When looking at educational attainment, significant differences are observed too.

When we concentrate on the hours per day spent online variable, we note that the highest mean is observed with those 15-19 and 20-24 years of age (6.055 and 7.689 hours, respectively). Those 60 and above and 55-69 years old recorded the least hours spent online (4.608 and 5.076 hours, respectively). Females only recorded a significantly higher number of hours than male respondents (7.104 relative to 5.464 hours). Those singles spend significantly more time online (7.202 hours) relative to the lowest recorded by the married (5.734 hours). Looking at educational attainment, those with BS, MS, and doctorate degrees scored the highest number spent online (6.058, 5.942, and 5.853, respectively). Secondary schoolers also score relatively high mean (5.829). Those who could only read and write and those with only primary education scored the lowest hours spent online (3.750 and 4.233 hours, respectively).

A report by (UKEssays, 2018) provides evidence that technology sources and means play a significant role in enhancing or hindering family relationships (Taylor, 2013; Thomson et al., 2018). Some report that it profoundly influences the family, decreasing spending time with the family and reducing socialization and face-to-face interaction (McDaniel, 2015). Technological transformation and advancements usually affect how families interact (references). Some warn that media and other forms of technology are creating a divide in the family and children interaction (Proudfoot, 2007). Some research also points to parents that are also immersed in their own technological lives rather than trying to enrich their connection with their children (Vandewater & Lee, 2009). Some go as far as saying that technology and its new media are destroying the parent-child relationship as it reduces family communication. Some point out that the technological transformation is disturbing family time and changing family habits (Williams & Merten, 2011). They refer to the fact that children search for and discover their ways of entertainment. This habit is also enforced by the fact that parents are getting busier with their own lives, from being online, watching TV, or going through their mobile applications. Overall, all these transformations result in family members spending less time with each other and more time with technology tools and means (Mullan & Chatzitheochari, 2019).

Finally, a significant variable in the path model is related to the mixture of negative mental or physical feelings that might result from using digital means and resources. Significant differences result concerning all relative categories (age, gender, marital status, and education). The highest means are recorded for secondary schools (2.3166) and those with bachelor's degrees (2.2821). Females recorded significantly higher means (2.5049) than males (2.1274). Those in age brackets 15-24, 25-29, and 30-34 provided the highest means (2.6571, 2.5874, and 2.5419), respectively. The highest means are also recorded by the separated, the single, and the divorced, respectively (2.673. 2.665, and 2.551). The married recorded the lowest mean of (2.165).

B. Discussions

Results imply that despite happiness being a profoundly human and subjective experience, the effect of digital transformation and experiences could not be ignored. Furthermore, results indicate a need to understand better how people feel about such a revolution in their life. In summary, the results advise policymakers to look into happiness without ignoring a life of constant changes that affect all generations positively and negatively to a certain degree.

The Abu Dhabi research provides evidence of multiple correlates and associates of digital technology, our happiness, and our daily life. Results are consistent with other empirical findings that the use of digital technology has positive strategic effects on society and hence indirectly on our happiness (Choudhury & Barman, 2014; Devaraj & Kohli, 2003; Jensen, 2007; Jose et al., 2016). Results also confirm the association of happiness with daily happenings, including our psychological and physical feelings (Bangun et al., 2021).

The research outcomes provide insights for policy-makers (in the industry and social arena) on the societal impact of digital transformation on challenges. The positive impacts and the various advantages of digitalization to business and our daily lives are also reported in other studies (Hinterhuber, 2022; Zemlyak et al., 2022). The Abu Dhabi study showed a direct association of the positive impact variable with our happiness and subjective health. On the other hand, the Abu Dhabi study shows the same association outcomes regarding the negative feelings from the digital transformation in our lives. The presence of both pros and cons are also addressed by (Bouwman et al., 2019; Elding & Morris, 2018; Llopis-Albert et al., 2021), that noted the favorable and unfavorable effects on our daily lives; as similar research also points to the advantages of digitization as it provides an element of speed and efficiency in obtaining the needed data (Lee et al., 2022). In general, results confirm with other findings the advantages of digitization when it comes to enhancing the speed and efficiency in many operations.

Consistent with many types of research, social connection with family (satisfaction) showed a significant high path to three of the most researched wellbeing topics. They include happiness, health, and the negative mixed feelings about the digital transformation and its effects on our lives. Higher negative feelings lead to lower happiness. In other words, using digital means and resources could be a significant predictor of our wellbeing or happiness. For example, at the onset of the COVID-19 pandemic, many activities and structures scrambled to look for information technologies and related services to impose a new digital reality on most segments of the society (i.e., education, work, and marketing). As a result, some individuals increased their use of digital communications to connect.

The Abu Dhabi study provided a direct association of the negative impact of digital life on the inner personal negative feelings about its use by the various segments of society. The perception of the negative impact of digital transformation exhorted a significant impact on how we feel when we use digital resources in our daily lives. The primary attribute is related to the negative effect on the young generation and the challenge imposed regarding cyber security. We must recall that the most alarming impact respondents were alarmed the young generation. The variable related to the impact of digitalization on the younger generation recorded the highest negative feeling with a mean of (3.467). Results confirm other studies that noted that the impact of the digital revolution on society, especially the younger generation, increased their digital communications usage compared to other age groups (Nguyen et al., 2020). The more time we spend online, the more negative feelings about

digital transformation utilization. The feelings could be related to sadness, depression, worry and anxiety, concentration and remembering things, sleeping, physical pain, fear, loneliness, and boredom. Results should be taken as warnings that the excessive use of digital technology may seriously impact developing children and teenagers. Other researchers also warn that frequent social media users might have higher rates of certain psychological feelings such as depression and anxiety (Burén et al., 2021; Cataldo et al., 2021).

Results also show that time spent online is directly associated with negative feelings from using digital technologies. The Abu Dhabi QoL survey also revealed that the younger population increased their use of Wi-Fi and social media significantly compared to the first QoL cycle. Meanwhile, a Gallup/Knight Foundation survey demonstrated that most respondent segments had increased their use of Wi-Fi, social media, and similar means.

The significance of negative mental feelings and their direct association with happiness and subjective health have raised alarms as in other similar research dealing with digital transformation. Consistent with other studies, results show that mental health is one of the most potential outcomes of digital transformation (Castrén et al., 2022; Spilkova et al., 2017). Other researches also indicate that some digital media resources may lead to psychological and physical health issues (Cabeza-Ramírez et al., 2021, 2022; Kuss et al., 2012). Results also confirm the association of the negative psychological feelings with excessive use of digital means, especially for the younger generation (Cabeza-Ramirez et al., 2021). Others also noted that excessive use of digital technology might have a more severe impact on developing children and teenagers; as evidence warns that frequent users of social media might have higher rates of certain psychological feelings such as depression and anxiety (Burén et al., 2021; Cataldo et al., 2021). The composite variable of the mixed psychological feelings included quality of sleep too. Consistent with other research, results of the Abu Dhabi study point to some contribution of the increased usage of digital resources to have significant effects on many functioning, including sleep and cognitive abilities (Limone & Toto, 2021; Mohan et al., 2021).

Not many researches addressed the digital transformation's positive impacts, negative feelings towards it, the negative impacts, and time spent online according to respondent categories in detail. Overall, the Abu Dhabi study regarding the positive impacts of digital transformation in the society, males, the married, age grout 35-44, education attainment, foresee higher positive impacts of digital transformation in the society. For the negative impacts on significant domains (i.e., social activity, physical health, mental health, young generation, and cybersecurity), we note that females, those (20-24, 25-29, and 30-34), those with college degrees, and the separated providing the most significant concern. When we concentrate on the hours per day spent online variable, the highest number of hours is noted for those (15-19 and 20-24 years of age), females, the single, and college degree holders or more scored the highest scores. Previous research also addressed gender differences in digitization (Brussevich et al., 2018; Felten et al., 2018). Most resulted in a significant difference between males and females in their perceptions of the impacts of digital transformation (Katharina et al., 2017). The age factor also got some attention, as most focus on death in younger and older adults (Pew Research Center, 2018; Seifert et al., 2018; Seifert & Charness, 2022). A more general study by (Seifert et al., 2018) also pointed to significant differences in attitudes toward digital resources and means. The study addressed gender, income, age, and education. Their results showed that younger males and those with higher education levels reported favorable attitudes toward digital services. Research by

(Rangaswamy et al., 2022) found no significant relationship between marital status and attitudes towards using the different means of digital presence (i.e., online or physical).

CONCLUSION

Our results are consistent with many other international results dealing with digital transformation, its impacts, and various perceptions. The unique feature of the present study is its focus on happiness, given the various associates related to digitalization, transformation, or usage manners. The path analysis provides a unique association between happiness and digital transformation experiences. In addition, the results point to the significance of family life satisfaction and cohesion in this rapidly advancing revolution. In general, results point to positive impacts of the digital transformation with happiness. On the other hand, results warn of its negative impacts on various social and non-social happing's around us; more specifically with the younger generation.

The Abu Dhabi Quality of Life survey addressed many wellbeing dimensions (housing, income, earnings, work and leisure, health, sport and activities, education, safety and security, the COVID pandemic, social relations and trust, volunteering and social participation, public services and benefits, the environment, information and technology, and subjective life satisfaction and happiness). However, many dimensions were not addressed in the current digital transformation study. More specifically, the expanded path model could include other variables suggested by others (obesity and eating healthy (Robinson et al., 2017), activities (Quelly et al., 2016), stress (Trost et al., 2014), isolation (reference), leisure, (Hale & Guan, 2015), sleep quality and time spent with the family (Robinson et al., 2017). Future research might also consider the trended association of selected factors and digital transformation.

As presented earlier, the perception of digitalization and its transformation scores were sensitive to some categorical factors (i.e., gender, age, marital status, education). Therefore, future research could try inserting categorical variables by trying more comprehensive and deep analysis methods or just using binary coding or different types of estimators (Monroe & Cai, 2015).

The challenge facing policymakers in Abu Dhabi is to minimize negative impact and maximize digital transformation gains. The research results in many significant challenges that are essential for developing several priorities for policy development, future research, and monitoring. Such policies should support the related wellbeing and societal adaptation to the impacts of digital transformation. More specifically, policies should focus more on the core dimensions of early childhood and younger age education in light of the impacts of digital technologies. In addition, policies and strategies should promote emotional resilience and self-control when it comes to excessive use of digital resources.

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